HISTORIC AMERICAN ENGINEERING
RECORD UT-5

Telluride Power Company: Olmstead Hydroelectric plant, 1903-04
NW side of Provo River, 200 ft. W. of Us 189, .2mi. N. of
State [illegible] 52, 2 mi. NE of Orem.
Orem vicinity
Utah County
Utah

HAER,
UTAH,
25-OREM.V,
2-

Photographs and
Written and Historical Data

Historic American Engineering Record
Heritage Conservation and Recreation Service
Department of Interior
Washington, DC 20243

ADDENDUM
FOLLOWS

ADDENDUM to:

Telluride Power Company, Olmsted Hydroelectric Plant
At the mouth of the Provo River Canyon,
300 feet west of U.S. Route
189 and 2 miles northeast of Orem
Orem vicinity
Utah County
Utah

HAER No. UT-5

HAER
UTAH,
25-OREM.V,
2-

WRITTEN HISTORIC AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
U.S. Department of the Interior
P.O. Box 37127
Denver, Colorado 80225

HAER
UTAH,
25-OREM,V,
2-

HISTORIC AMERICAN ENGINEERING RECORD

Addendum to: **Telluride Power Company, Olmsted Hydroelectric Plant**

HAER No. UT-5

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| Location: | At the mouth of the Provo River Canyon, 200 feet west of U.S. Route 189 and 2 miles northeast of Orem, Utah County, Utah<br><br>UTM: 12.444470.4462810<br>Quad: Orem |
| Date of Construction: | 1903-1904, 1923 |
| Original Owner: | Telluride Power Company |
| Present Owner: | Utah Power & Light Company |
| Original Use: | Hydroelectric generation |
| Present Use: | Hydroelectric generation. The Olmsted Hydroelectric Power Plant is used today to generate electricity for the regional power grid. With the completion of the nw Jordanelle Dam on the upper Provo River, power production at the plant will be curtailed, but not eliminated, because of increased water storage above the plant. |
| Significance: | This plant replaced the earlier Nunn Hydroelectric Plant (see HAER No. UT-5) and provided increased generating capacity for the Telluride Power Company system in Utah. It is a regionally significant example of an early 20th century hydroelectric generating facility. |
| Historian: | Donald C. Jackson, 1987 |

The Olmsted Power Plant is a 90-foot by 65-foot, single-story gable-roofed, brick hydroelectric power plant completed in 1904 by the Telluride Power Company to replace the Nunn Power Plant (see HAER No. UT-2 for more data on the Nunn Power Plant). The Nunn Power Plant was built by tbe Telluride Power Company under the direction of L. L. Nunn in order to develop hydroelectric power along the Provo River in Provo Canyon. k Because of difficulties with downstream water users in the Utah Lake Valley near Provo, Nunn was forced to abandon his plans to build a large storage dam in Provo Canyon. Nunn subsequently built the original Nunn Power Plant under a 120-foot "head" (or water pressure) in order to generate electric power for mines in Eureka and Mercur. However, it was recognized from the beginning that tbis initial plant would probably be replaced as soon as it became politically possible and economically feasible to do so.

In 1900-1904, the company lengthened the power canal that served the Nunn plant and extended it to the mouth of Provo Canyon. This allowed the construction of a new hydroelectric power plant tbat operated under a "head" of 330 feet, an increase of 200 feet over the original Nunn Power Plant. Completed in April 1904 and known as the Olmsted Power Plant in bonor of an engineer involved in construction, the enlarged plant contained three 3,600 horsepower Allis-Chalmers turbines with a combined capacity of over 10,000 bp. [[1] This was almost a five-fold increase over the 1897 Nunn plant. The Olmsted plant also contained three 2,500 volt, three-phase General Electric generators and a bank of 44,000 volt transformers. Operation of the Olmsted plant required abandonment of the old Nunn plant and included construction of over 14,000 feet of new wooden flume work, and 1,000 feet of tunnels. [2]

The upgrading of the Telluride Power Company's Provo River development coincided with the firm's expansion into general power production for the north/central Utab market. In 1901, Nunn built a 2,000 kilowatt capacity hydroelectric plant on the Logan River near Logan, Utah, that was subsequently transferred to the larger company. [3] The Logan plant operated under a head of 212 feet and expanded the firm's operations into the territory north of Salt Lake City. Despite being separated by more than 100 miles, the Olmsted and Logan installations were joined together by a lengthy transmission line that allowed tbe company to more efficiently serve the various "loads" placed upon it by an ever-growing number of customers.

Within a few years of the Olmsted plant's construction, the Telluride Power Company became involved in implementing plans to use Bear Lake on the Utah/Idaho border as a reservoir for a new hydroelectric power plant on the Bear River. [4] This new plant promised to dramatically increase the firm's generation capacity and help relieve problems exacerbated by water supply problems at Olmsted. Although Olmsted was equipped with generators capable of producing over 10,000 hp of three-phase electrical power, tbere was only enough water to produce about half of this capacity. This situation soon became a major bone of contention between the Nunn brothers and the Telluride Power Company's eastern financial leadership under tbe direction of president James Campbell.

In letters exchanged between Campbell and P. N. Nunn in 1908, bitter accusations over the company's operations were aired with Campbell, accusing the Nunn brothers of running a fiscally irresponsible electric power network. [5] In response, Nunn accused the eastern capitalists of not understanding the complexities of the business. In addition to the underutilization of the Olmsted plant's generating capacity, Campbell's complaints centered around company support for L. L. Nunn's Telluride Institute.

This institute was established in Colorado in the early 1890s when Nunn faced a critical shortage of men qualified to oversee operation of the troublesome single-phase motors used by the Telluride mines. Under Nunn's guidance, the Telluride Institute trained non-college men for employment in the company's ever-expanding electric power empire. As a result of Nunn's interest in the welfare of his workers, the institute also created a cadre of employees bearing extreme personal loyalty to Nunn. The technical necessity of the

institute was somewhat lessened when the company abandoned its single-phase system in favor of less troublesome polyphase facilities. However, Nunn still believed in its character-building function and its ability to foster a partnership between management and labor that was relatively unique. As such, in 1904, he moved the Telluride Institute to new headquarters next to the Olmsted plant and began planning for its continued growth.

In contrast, Campbell considered the institute to be an unnecessary drain on the company's financial resources. He also thought the loyalty that it fostered among workers to Nunn was akin to old-fashioned cronyism. To Campbell, the institute constituted a facade that allowed the Nunn brothers to provide special treatment for their friends at the company's expense. For several years, the problems between the Nunn brothers and the firm's eastern corporate leadership slowly intensified. Finally, in 1912, Campbell and his associates were able to remove L. L. Nunn from the board of directors and effect litigation of the Telluride Power Company's assets. [6] As part of this, the Telluride Institute at Olmsted was shut down and the buildings adapted to other uses.

This marked the beginning of the modern Utah Power & Light Company that was formed around the nucleus of the hydroelectric power network created by Nunn. This new company eventually acquired all of the major power generating units in northern Utah (and much of southern Idaho) and became the focus of electric power development in the region. [7]l The Olmsted plant played an important role in the operations of the new company, especially once agreements with downstream irrigators were reached that allowed more water to flow through its turbines. In 1922, an additional 5,000 hp generator unit was added to the Olmsted plant and this brought the facility up to its present capacity. Aside from this, there has been no major alteration of the plant. However, with construction of the new Jordanelle Dam by the Bureau of Reclamation , the power production of the Olmsted plant will be reduced, but not eliminated, in the future.

[1] Full photographic coverage of the Olmsted Hydroelectric Plant is proved in HAER No. UT-5. This file includes photographs taken by Jack Boucher in 1971, copies of historic photographs and copies of historic drawings of the site.

[2] Data on the Olmsted system is given in "The Telluride Power Company - Utah (File #1)" n.d. (circa 1940), pp. 64-65. This typewritten manuscript is in the historical files of the Utah Power & Light Company. The author thanks Dr. John McCormick of the Utah State Historical Society for making it available.

[3] The Logan plant is illustrated in Nunn, "Pioneer Work in High Tension Electric Power Transmission," pp. 194-195.

[4] The early history of the Bear Lake development is described in "Utah Power & Light Company: History of Origin and Development," pp. 133-135.

[5] Evidence of friction between Nunn and others in the firm's corporate leadership is provided in "The Telluride Power Company - Utah (File #1)," pp. 130-140. This includes a copy of a letter from James Campbell to P. N. Nunn dated September 8, 1908 and a response from P. N. Nunn to James Campbell dated December 4, 1908. These letters comprise an acrimonious exchange over the operation and direction of the Telluride Power Company's hydroelectric power systems.

[6] L. L. Nunn's involuntary removal from the Telluride Power Company's Board of Directors in 1912 is described in "The Telluride Power Company - Utah (File #1)," pp. 55-56. Nunn's departure from the company just prior to its merger into the new Utah Power & Light Company is sometimes related to his poor health. However, Nunn lived until 1925 and he left the company not because he want to do so, but because he was forced to do so.

[7] A list of all the predecessor companies that formed the Utah Power & Light Company as of 1940 is provided in the frontispiece of "Utah Power & Light Company: History of Origin and Development."